to decrease as intracranial pressure increases, and the procedure assists in the monitoring of intracranial pressure changes. More recently, transcranial Doppler has been used in the evaluation of brain death with the observation of a pattern of "to-and-fro" flow in near-dead or brain-dead patients.

The procedure has been used to evaluate cerebrovascular disease in ambulatory patients. Altered intracranial perfusion from extracranial carotid occlusive disease and primary intracranial vascular disorders can be detected. Carbon dioxide challenge techniques can influence blood vessel autoregulation in cerebral arteries and are used in conjunction with carotid compression techniques to determine the extent of carotid vascular disease that is present and to detect compensatory collateral blood flow across the circle of Willis in affected areas. The studies are used in association with other techniques, including duplex extracranial evaluations, angiography, and magnetic resonance imaging. Research studies are being undertaken to evaluate common conditions such as migraine, dizziness, syncope, and measures of autonomic regulation. The technique holds promise for the objective evaluations of many of these conditions.

Transcranial Doppler examination is a safe, useful technique that allows a quick screening of the cerebral circulation in a number of clinical situations. As more widespread application becomes available, its specific uses will be clarified.

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Myth of the Chronic Fatigue Syndrome

THE CHRONIC FATIGUE SYNDROME is a symptom complex characterized by fatigue, myalgias, arthralgias, neurologic symptoms—headaches, paresthesias, dizziness—lymph node swelling or tenderness, cognitive dysfunction, sleep disorders, and depression. The symptoms are similar to those seen in inflammatory illnesses and can be induced by the systemic administration of interferon beta. Severe fatigue is a perplexing and constant complaint in many patients with multiple sclerosis. This indicates that the perception of energy level has a sensitive physiologic basis that is dependent on the homeostasis of other body systems.

The chronic fatigue syndrome has gained popularity among the lay public and has stimulated considerable scientific debate about its existence. Many investigators and practitioners have attributed the disorder to chronic depression. Difficulty arises from the diverse symptoms associated with fatigue states; fatigue is a prominent feature of many systemic, neurologic, and psychiatric disorders. Also, fatigue is a subjective complaint without a quantifiable measure. This interweaving of many symptoms and diagnoses with disabling fatigue makes it difficult to compare patient groups. Terms applied to disorders that probably represent chronic fatigue syndrome are chronic infectious mononucleosis, myalgic encephalomyelitis, idiopathic chronic fatigue and myalgia syndrome, epidemic neuromyasthenia, postviral fatigue syndrome, and fibrositis-fibromyalgia.

The Centers for Disease Control (CDC) made a major advance by recommending a working case definition: the diagnosis of chronic fatigue syndrome is restricted to patients with fatigue that occurs abruptly, is present for more than six months, and prevents the patient from performing usual activities 50% of the time. In addition, there is no identifiable systemic, neurologic, or psychiatric illness that could otherwise explain the symptom complex. The patient should have a minimum of 6 of 11 symptoms (mild fever, sore throat, painful lymph nodes, diffuse muscle weakness, myalgia, postexercise fatigue, headaches, migratory arthralgia, neuropsychological complaints, sleep disturbance, abrupt onset of complaints) and 2 of 3 physical signs (slightly elevated temperature, nonexudative pharyngitis, palpable or tender lymph nodes). The CDC's recommendations consolidate the syndrome definition, allowing for a large number of patients to be identified and enrolled into research protocols.

Current research on the chronic fatigue syndrome has focused on treatment, physiologic mechanisms, clinical subtypes, fatigue quantification measures and markers, and the association with chronic infections. Although several potential infectious agents have been identified, including Epstein-Barr virus, retroviruses (possibly human T-cell lymphotropic virus type II), human herpesvirus type 6, and coxsackieviruses, none has emerged as an indisputable cause of the syndrome. Research has also focused on identifying a metabolic marker using phosphate 31 magnetic resonance spectroscopy and a physiologic marker using single-fiber electromyography of muscle fatigue. Results have been mixed, and further efforts to delineate their role in evaluating the syndrome will be necessary. The question of whether fatigue is mediated by central nervous system or peripheral mechanisms has considerable scientific and therapeutic implications. Treatment remains focused on symptom and supportive management as no antiviral agent has proved successful. The answers to the many issues inherent in the chronic fatigue syndrome await the results of research.

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Selegiline (Eldepryl) for Parkinson's Disease

PARKINSON'S DISEASE has attracted attention recently as concepts of cause and treatment change and our population ages. An important advance in treatment is the use of selegiline hydrochloride (Deprenyl [Eldepryl]) for prophylaxis and the relief of symptoms. Selegiline was released in 1989 as an adjunct to levodopa for the treatment of Parkinson's disease. Since then, exciting new information about an alternative application has become available.

Two observations prompted the use of the type B monoamine oxidase inhibitor selegiline as a prophylactic agent for Parkinson's disease. Administering 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP, a neurotoxin) can produce parkinsonism in humans and primates. It was discovered that this could be prevented in primates by pretreatment with selegiline. Investigators have hypothesized that the breakdown of dopamine itself (partially through monoamine